

Figure 1
Interleukin-21

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1  GGCACGAGTGGACACGGATGAGGACCGCTATCCACAGAAGCTGGCCTTCGCCGAGTGCCT  60
1  A R V D T D E D R Y P Q K L A F A E C L  20
      Domain I                               Domain II

61  GTGCAGAGGCTGTATCGATGCACGGACGGCCGCGAGACAGCTGCGCTCAACTCCGTGCG  120
21  C R G C I D A R T G R E T A A L N S V R  40
      Domain II

121 GCTGCTCCAGAGCCTGCTGGTGCTGCGCCGCCGCCCTGCTCCCGGACGGCTCGGGGCT  180
41  L L Q S L L V L R R R P C S R D G S G L  60
      Domain III

181 CCCACACCTGGGGCCTTTGCCCTTCCACACCGAGTTCATCCACGTCCCCGTCGGCTGCAC  240
61  P T P G A F A F H T E F I H V P V G C T  80
      Domain IV

241 CTGCGTGCTGCCCCGTTCACTGTGACCGCCAAGGCCGTGGGGCCCTTAGACTGGACACGT  300
81  C V L P R S V  87
      Domain IV

301 GTGCTCCCCAGAGGGCACCCCTATTTATGTGTATTTATTTATTATATGCCTCCCC  360

361 AACACTACCCCTTGGGGTCTGGGCATTTCCCGTGTCTGGAGGACAGCCCCCACTGTTCTC  420

421 CTCATCTCCAGCCTCAGTAGTTGGGGGTWGAAGGAGCTCAGCACCTCTTCCAGCCCTTAA  480

481 AGCTGCAGAAAAGGTGTACACGGCTGCCTGTACCTTGGYTCCCTGTCTGCCGGCT  540

541 TCCCTTACCCTATCACTGGCCTCAGGCCCCCGCAGGCTGCCTCTTCCCAACCTCCTTGA  600

601 AGTACCCCTGTTTCTTAAACAATTATTTAAGTGTACGTGTATTATTAACTGATGAACAC  660

661 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA  705

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Figure 2A
Interleukin-22

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1  GGAATTTCGGCACGAGCTCGTGGCGTGCTCAGTGCCTTCCACCACACGCTGCAGCTGGGGC  60
1  N S A R A R A V L S A F H H T L Q L G P  20

#

61  CGCGTGAGCAGGCGCGCAACGCGAGCTGCCCGGCAGGGGGCAGGCCCGCCGACCGCCGCT  120
21  R E Q A R N A S C P A G G R P A D R R F  40

121  TCCGGCCGCCCACCAACCTGCGCAGCGTGTGCGCCCTGGGCCTACAGAATCTCCTACGACC  180
41  R P P T N L R S V S P W A Y R I S Y D P  60
                                     Domain I

181  CGGCGAGGTACCCACAGGTACCTGCCTGAAGCCTACTGCCTGTGCCGGGGCTGCCTGACCG  240
61  A R Y P R Y L P E A Y C L C R G C L T G  80
    Domain I                               Domain II

241  GGCTGTTTCGGCGAGGAGGACGTGCGCTTCCGCAGCGCCCCTGTCTACATGCCCACCGTCG  300
81  L F G E E D V R F R S A P V Y M P T V V  100
                                     Domain III

301  TCCTGCGCCGCACCCCGCCTGGCGCGGCGCCGTTCCGTCTACACCGAGGCCTACGTCA  360
101 L R R T P A C A G G R S V Y T E A Y V T  120
    Domain III

#

361  CCATCCCCGTGGGCTGCACCTGCGTCCCCGAGCCGGAGAAGGACGCAGACAGCATCAACT  420
121 I P V G C T C V P E P E K D A D S I N S  140
    Domain IV

421  CCAGCATCGACAAACAGGGCGCCAAGCTCCTGCTGGGCCCCAACGACGCGCCCGCTGGCC  480
141 S I D K Q G A K L L L G P N D A P A G P  160

481  CCTGAGGCCGGTCTTGCCCCGGGAGGTCTCCCGGCCCGCATCCCGAGGCGCCCAAGCTG  540

541  GAGCCGCTTGAGGGCTCGGTGCGCGACCTCTGAAGAGAGTGACCCGAGCAAACCAAGTG  600

601  CCGGAGCACCAGCGCCGCCTTTCCATGGAGACTCGTAAGCAGCTTCATCTGACACGGGCA  660

661  TCCCTGGCTTGCTTTTAGCTACAAGCAAGCAGCGTGGCTGGAAGCTGATGGGAAACGACC  720

721  CGGCACGGGCATCCTGTGTGCGGCCCGCATGGAGGGTTTGAAAAAGTTACGGAGGCTCC  780

781  CTGAGGAGCCTCTCAGATCGGCTGCTGCGGGTGCAGGGCGTGACTACCGCTGGGTGCTT  840

841  GCCAAAGAGATAGGGACGCATATGCTTTTTAAAGCAATCTAAAAATAATAAAGTATAG  900

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CCDS: E22260

Figure 2B
Interleukin-22

901 CGACTATATACCTACTTTTAAAATCAACTGTTTTGAATAGAGGCAGAGCTATTTTATATT 960
961 ATCAAATGAGAGCTACTCTGTTACATTTCTTAACATATAAACATCGTTTTTTACTTCTTC 1020
1021 TGGTAGAATTTTTTAAAGCATAATTGGAATCCTTGGATAAATTTTGTAGCTGGTACACTC 1080
1081 TGGCCTGGGTCTCTGAATTCAGCCTGTCCCGATGGCTGACTGATGAAATGGACACGTCT 1140
1141 CATCTGACCCACTCTTCCTTCCACTGAAGGTCTTCACGGGCCTCCAGGTGGACCAAAGGG 1200
1201 ATGCACAGCGGGCTCGCATGCCCCAGGGCCAGCTAAGAGTTCCAAAGATCTCAGATTTGG 1260
1261 TTTTAGTCATGAATACATAAACAGTCTCAAACCTCGCACAATTTTTTCCCCCTTTTGAAAG 1320
1321 CCACTGGGGCCAATTTGTGGTTAAGAGGTGGTGAGATAAGAAGTGAACGTGACATCTTT 1380
1381 GCCAGTTGTCAGAAGAATCCAAGCAGGTATTGGCTTAGTTGTAAGGGCTTTAGGATCAGG 1440
1441 CTGAATATGAGGACAAAGTGGGCCACGTTAGCATCTGCAGAGATCAATCTGGAGGCTTCT 1500
1501 GTTCTGCAATCTGCCACGAGAGCTAGGTCTTGATCTTTTCTTTAGATTGAAAGTCTGT 1560
1561 CTCTGAACACAATTATTTGTAAAAGTTAGTAGTTCTTTTAAATCATTAAAAGAGGCTT 1620
1621 GCTGAAAAAAAAAAAAAAAAAAAA 1642

	110	120	130	140	150		
67	- - - - - Y	N R S T S P W	N L H R N E D P E	R Y P S V	I W E A K C R H L G C	I N A D - G N V D Y	IL-17.aa
70	- - - - - L	N R S T S P W	T L H R N E D P D	R Y P S V	I W E A Q C R H Q R C	V N A E - G K L D H	mIL-17.aa
63	- - - - - Y	N R S T S P W	T L H R N E D Q D	R Y P S V	I W E A K C R Y L G C	V N A D - G N V D Y	vIL-17.aa
88	L Q L W M S N K	- R S L S P W	G Y S I N H D P S R I	P V D L L P E A R C L C L G C	V N P F T M Q E D R		IL20.aa
2	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	IL-21.aa
96	V - L E A D T H Q	R S I S P W R Y R V D T	D E D R Y P Q K L A F A E C L C R G C	I D A R T G R E T A			IL21FL.aa
91	R R F R P P T N L	R S V S P W A Y R I S Y D P A R Y P R Y L P E A Y C L C R G C	L T G L F G E E D V				IL-22.aa
91	R R F R P P T N L	R S V S P W A Y R I S Y D P A R Y P R Y L P E A Y C L C R G C	L T G L F G E E D V				IL22ext.aa

		160	170	180	190	200	
109	H M N S V P I Q Q E I L V L R R E P - - - - - P H C P N S F R L E K I L - - - V S V G C T C V T P						IL-17.aa
112	H M N S V L I Q Q E I L V L K R E P - - - - - E S C P F T F R V E K M L - - - V G V G C T C V A S						mIL-17.aa
105	H M N S V P I Q Q E I L V V R K G H - - - - - Q P C P N S F R L E K M L - - - V T V G C T C V T P						vIL-17.aa
137	S M V S V P V F - S Q V P V R R R L C P P P R T G P C R Q - - - R A V M E T I A V G C T C I - -						IL20.aa
35	A L N S V R L L Q S L L V L R R R P C S R D G S G L P T P G A F A F H T E F I H V P V G C T C V - -						IL-21.aa
145	A L N S V R L L Q S L L V L R R R P C S R D G S G L P T P G A F A F H T E F I H V P V G C T C V - -						IL21FL.aa
88	R F R S A P V Y M P T V L R R T P A C A G G R S V - - - - - Y T E A Y V T I P V G C T C V P E						IL-22.aa
101	R F R S A P V Y M P T V L R R T P A C A G G R S V - - - - - Y T E A Y V T I P V G C T C V P E						IL22ext.aa

Figure 3B

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Figure 4
Interleukin-21 Polypeptide Analysis

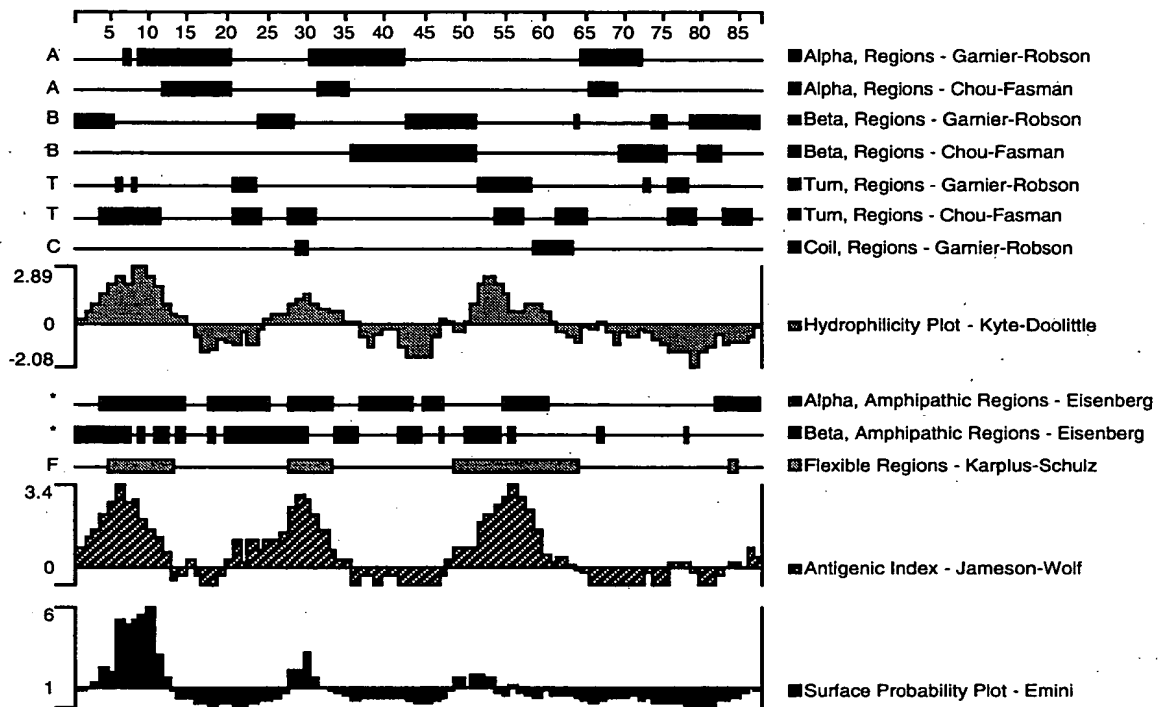


Figure 5
Interleukin-22 Polypeptide Analysis

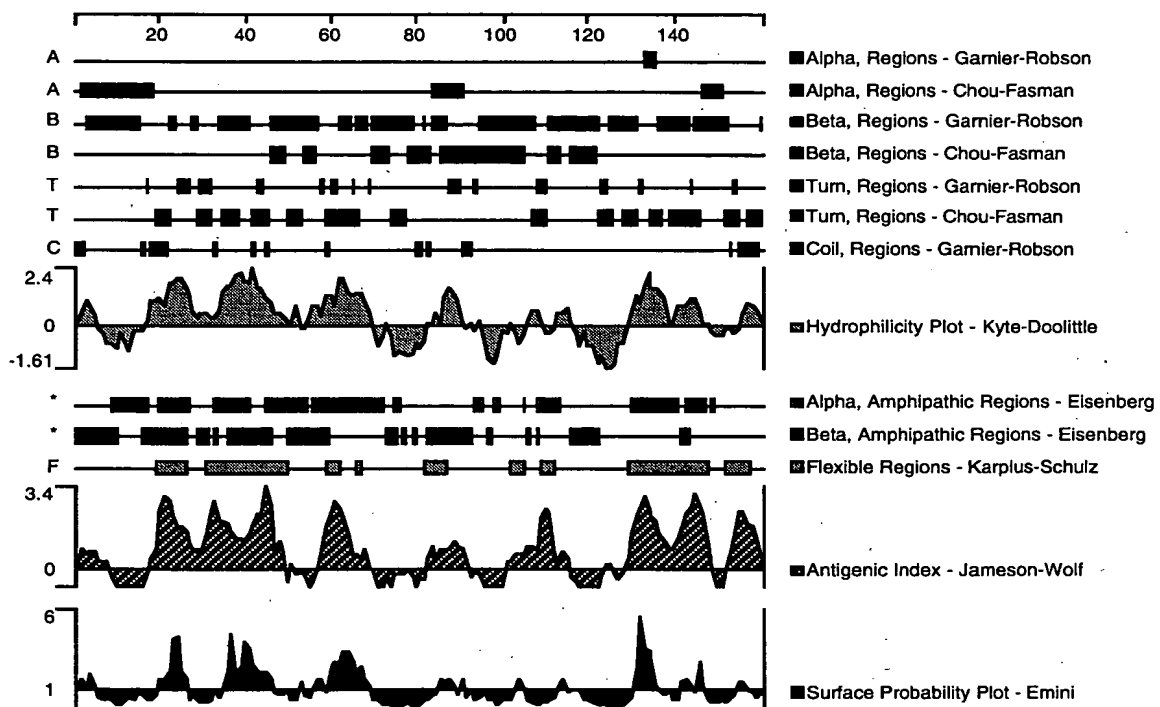


Figure 6A
Interleukin-21

1	GCTCCAAGCCCAGCCTGCCCCGCTGCCGCCACCATGACGCTCCTCCCCGGCCTCCTGTGTT	60
1	<u>M T L L P G L L F</u>	9
61	CTGACCTGGCTGCACACATGCCTGGCCCACCATGACCCCTCCCTCAGGGGGCACCCCCAC	120
10	<u>L T W L H T C L A</u> H H D P S L R G H P H	29
121	AGTCACGGTACCCCACTGCTACTCGGCTGAGGAACTGCCCTCGGCCAGGCCCCCA	180
30	S H G T <u>P H C Y S A E</u> E L P L G Q A P P	49
	Domain V	
181	CACCTGCTGGCTCGAGGTGCCAAGTGGGGGAGGCTTTGCCTGTAGCCCTGGTGTCCAGC	240
50	H L L A R G A K W G Q A L <u>P V A L V S S</u>	69
	Domain VI	
241	CTGGAGGCAGCAAGCCACAGGGGAGGCACGAGAGGCCCTCAGCTACGACCCAGTGCCCG	300
70	L E A A S H R G R H E R P S A T T Q C P	89
301	GTGCTGCGGCCGAGGAGGTGTTGGAGGCAGACCCACCAGCGCTCCATCTCACCCCTGG	360
90	V L R P E E V L E A D T H Q <u>R S I S P W</u>	109
	Domain VII	
361	AGATACCGGTGGACACGGATGAGGACCGCTATCCACAGAAGCTGGCCTTCGCCGAGTGC	420
110	R Y R <u>V D T D E D R Y P</u> Q K L A F A E C	129
	Domain I	Domain II
421	CTGTGCAGAGGCTGTATCGATGCACGGACGGCCGCGAGACAGCTGCGCTCAACTCCGTG	480
130	<u>L C R G C</u> I D A R T G R E T A A L N S V	149
	Domain II	
481	CGGTGCTCCAGAGCCTGCTGGTGCTGCGCCCGCGCCCTGCTCCCGCGACGGCTCGGGG	540
150	R L L Q S L <u>L V L R R R P</u> C S R D G S G	169
	Domain III	
541	CTCCCCACACTGGGGCCTTTGCCTTCCACACCGAGTTTCATCCACGTCCCCGTGCGCTGC	600
170	L P T P G A F A F H T E F I H <u>V P V G C</u>	189
	Domain IV	
601	ACCTGCGTGCTGCCCCGTTTCAGTGTGACCGCCAAGGCCGTGGGGCCCTTAGACTGGACAC	660
190	<u>T C V</u> L P R S V	197
	Domain IV	
661	GTGTGCTCCCCAGAGGGCACCCCTATTTATGTGTATTTATGTATTTATATGCCTCCC	720
721	CCAACACTACCCTTGGGGTCTGGGCATTCCCCGTGTCTGGAGGACAGCCCCCACTGTTC	780

Figure 6B
Interleukin-21

781 TCCTCATCTCCAGCCTCAGTAGTTGGGGTGAAGGAGCTCAGCACCTCTTCCAGCCCTT 840
841 AAAGCTGCAGAAAAGGTGTACACGGCTGCCTGTACCTTGGYTCCCTGTCTGCTCCCGG 900
901 CTTCCCTTACCCTATCACTGGCCTCAGGCCCGCAGGCTGCCTCTTCCCAACCTCCTTG 960
961 GAAGTACCCTGTTTCTTAACAATTATTTAAGTGACGTGTATTATTAAACTGATGAAC 1020
1021 ACAA 1067

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Figure 7
Interleukin-21 Polypeptide Analysis

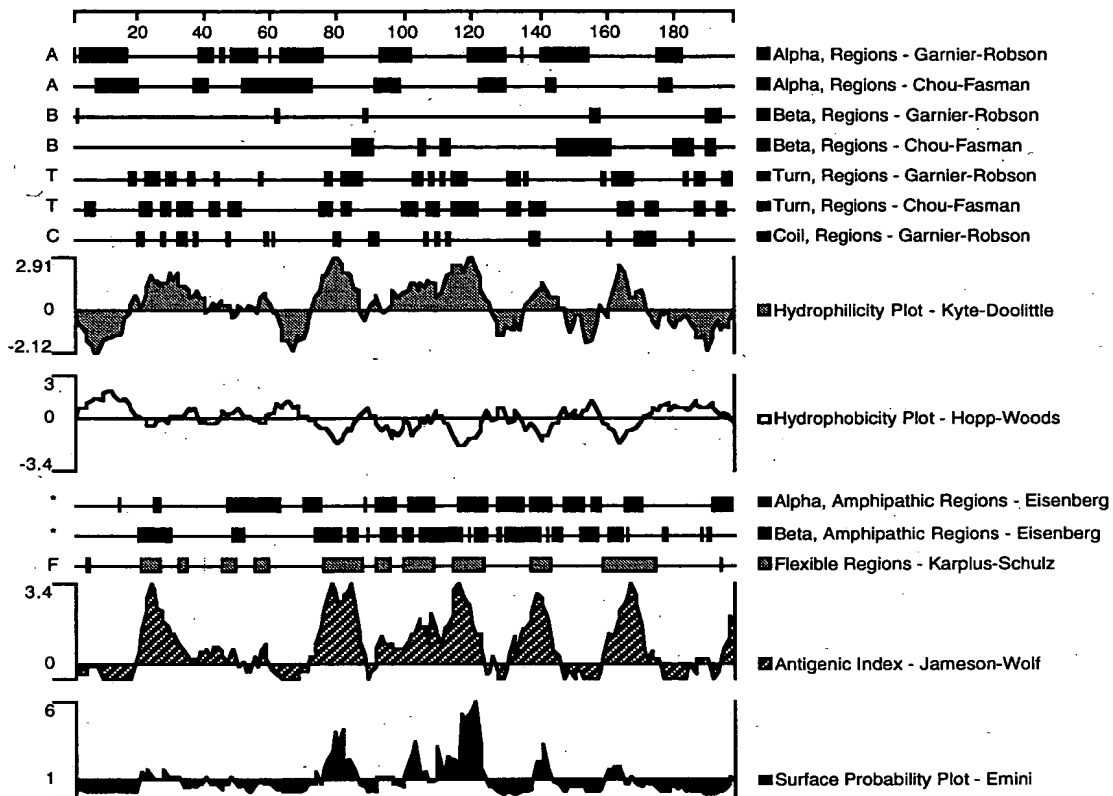


Figure 8
Interleukin-22

1	GGCTGCGCGGACCGGCGGAGGAGCTACTGGAGCAGCTGTACGGGCGCCTGGCGGCGCGC	60
1	G C A D R P E E L L E Q L Y G R L <u>A A G</u>	20
	CD-VI	
	#	
61	GTGCTCAGTGCCTTCCACCACACGCTGCAGCTGGGGCCGCGTGAGCAGGCGCGCAACGCG	120
21	<u>V L S</u> A F H H T L Q L G P R E Q A R N A	40
	CD-VI	
121	AGCTGCCCCGCGAGGGGGCAGGCCCGCCGACCGCCGCTTCCGGCCGCCACCAACCTGCGC	180
41	S C P A G G R P A D R R F R P P T N L <u>R</u>	60
181	AGCGTGTGCGCCTGGGCCTACAGAATCTCCTACGACCGGCGAGGTACCCAGGTACCTG	240
61	<u>S V S P W</u> A Y R <u>I S Y D P A R Y P R Y L</u>	80
	CD-VII CD-I	
241	CCTGAAGCCTACTGCCTGTGCCGGGGCTGCCTGACCGGGCTGTTCGGCGAGGAGGACGTG	300
81	P E A Y <u>C L C R G C</u> L T G L F G E E D V	100
	CD-II	
301	CGCTTCCGCGAGCGCCCTGTCTACATGCCCACCGTCGTCTGCGCCGACCCCGCCTGC	360
101	R F R S A P V Y M P T <u>V V L R R T P A C</u>	120
	CD-III	
361	GCCGGCGGGCGTTCGGTCTACACGAGGCCTACGTCACCATCCCCGTGGGCTGCACCTGC	420
121	A G G R S V Y T E A Y V T <u>I P V G C T C</u>	140
	CD-IV	
	#	
421	GTCCCCGAGCCGGAGAAGGACGCGAGACAGCATCAACTCCAGCATCGACAAACAGGGCGCC	480
141	<u>V</u> P E P E K D A D S I N S S I D K Q G A	160
	CD-IV	
481	AAGTCCTGTGCGGGCCCCAACGACGCGCCCGCTGGCCCTGA	522
161	K L L L G P N D A P A G P	174

Figure 9
Interleukin-22 Polypeptide Analysis

